

Fig. 1(a)

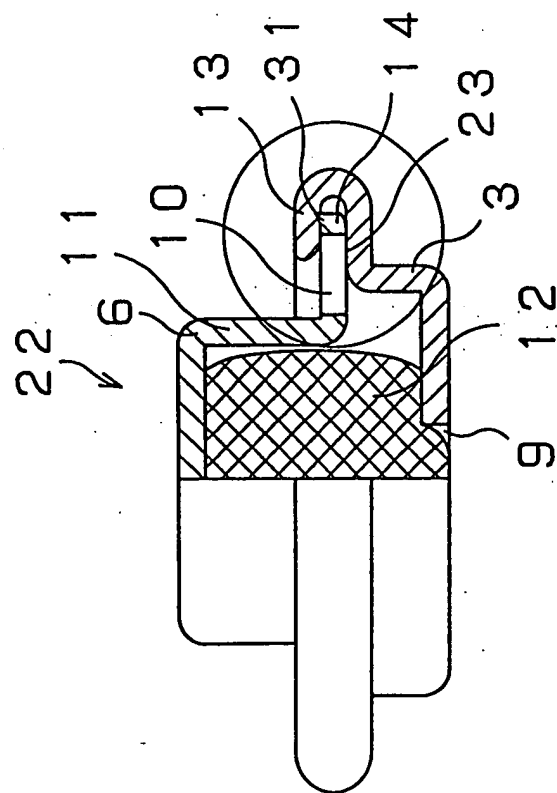
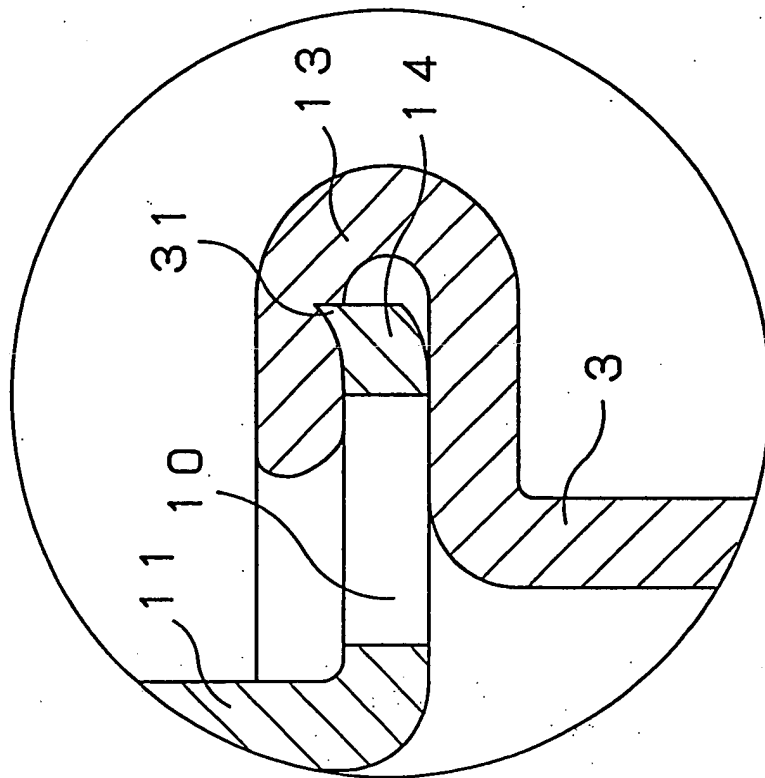


Fig. 1(b)



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Fig. 2 (b)

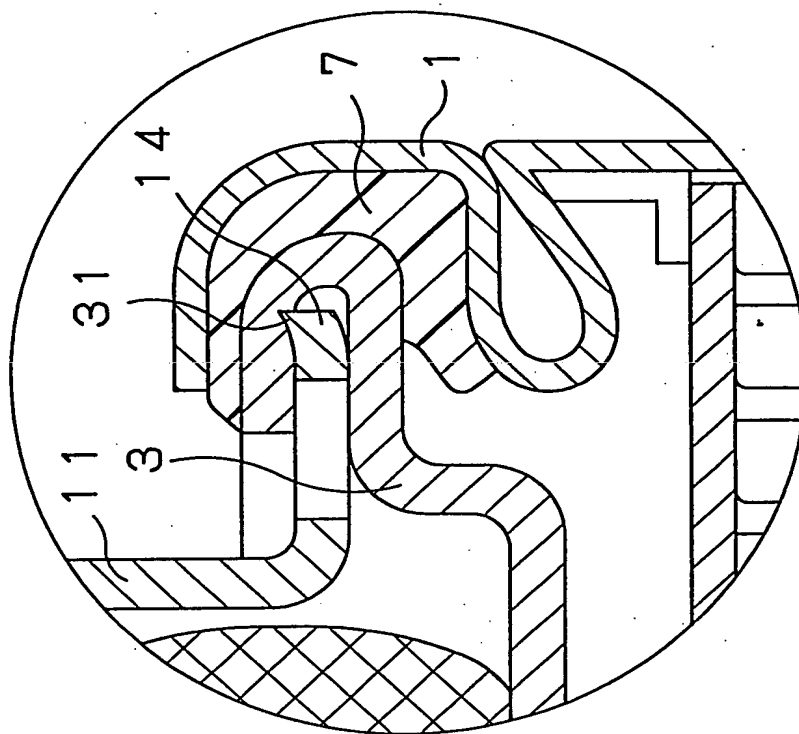
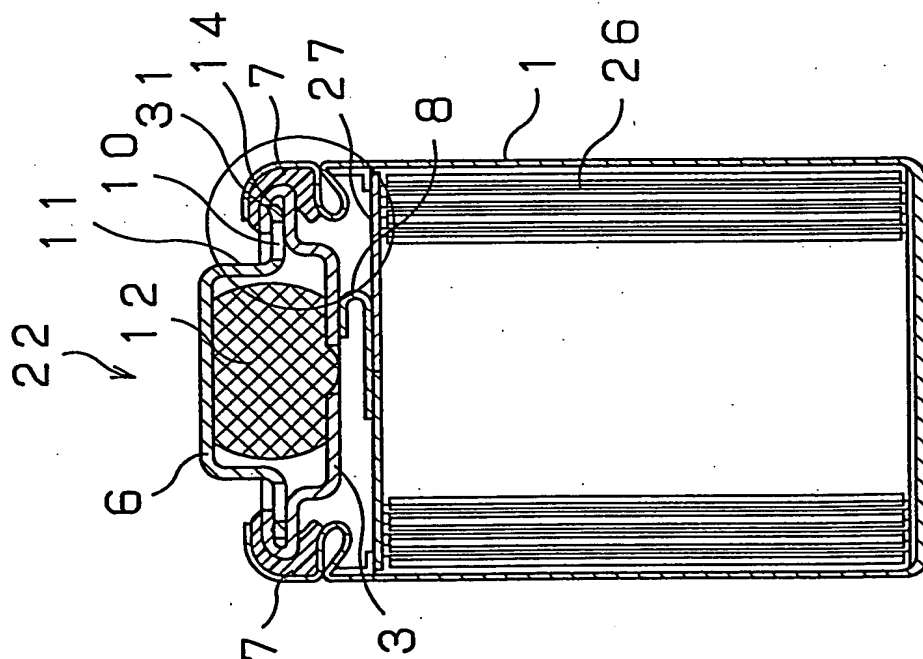


Fig. 2(a)



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Fig. 3(a)

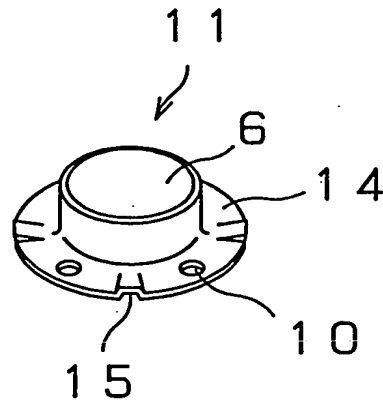


Fig. 3(b)

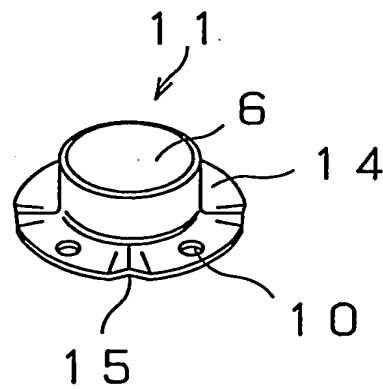


Fig. 3(c)

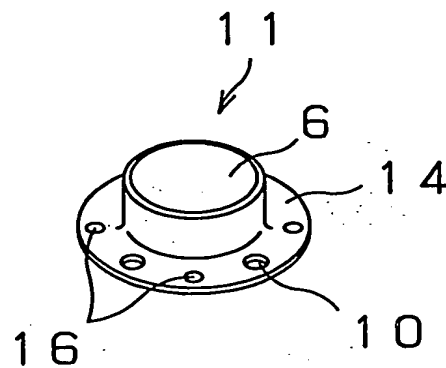
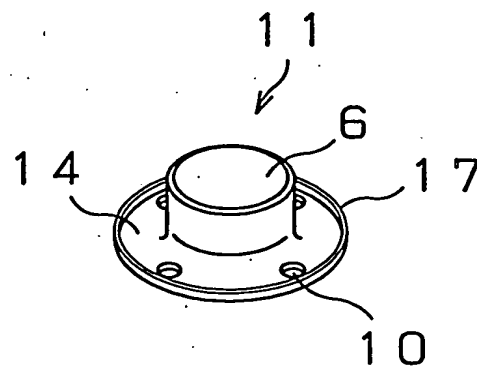


Fig. 3(d)



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Fig. 4

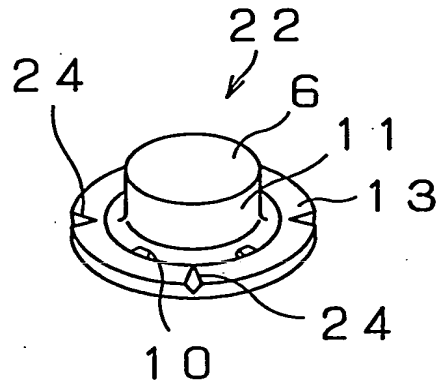
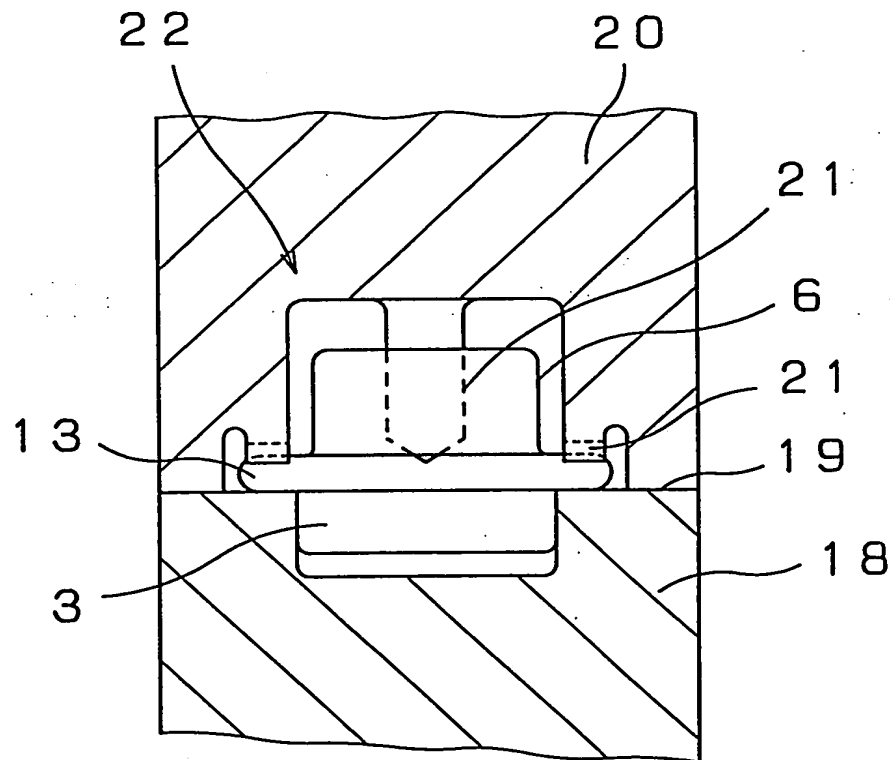


Fig. 5



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Fig. 6(a)

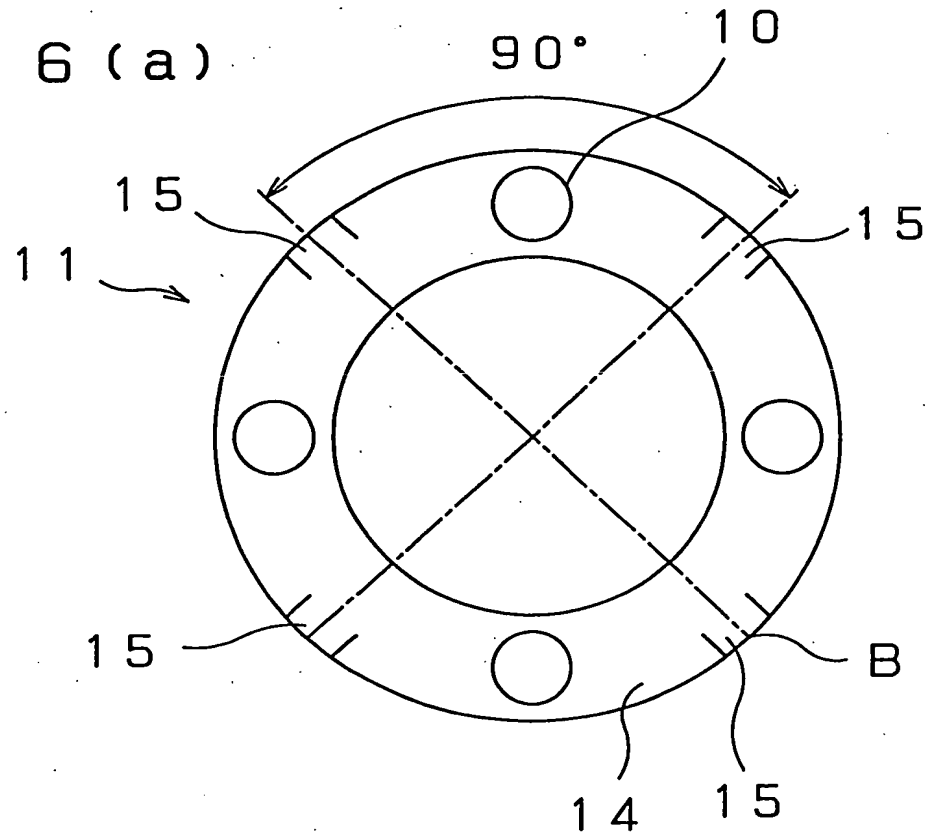


Fig. 6(b)

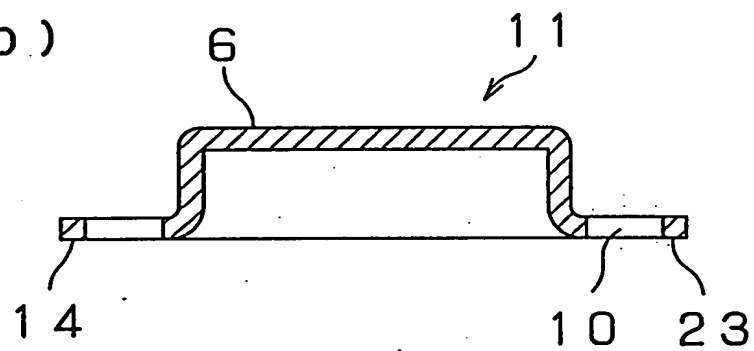


Fig. 6(c)

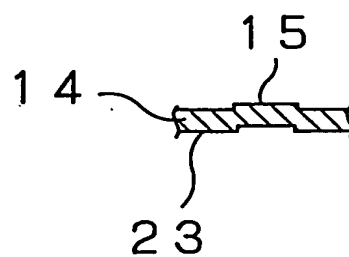
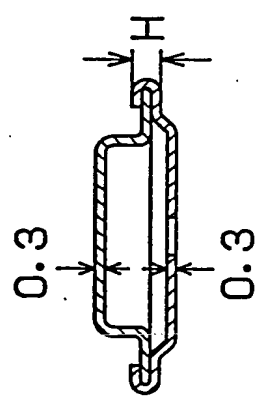
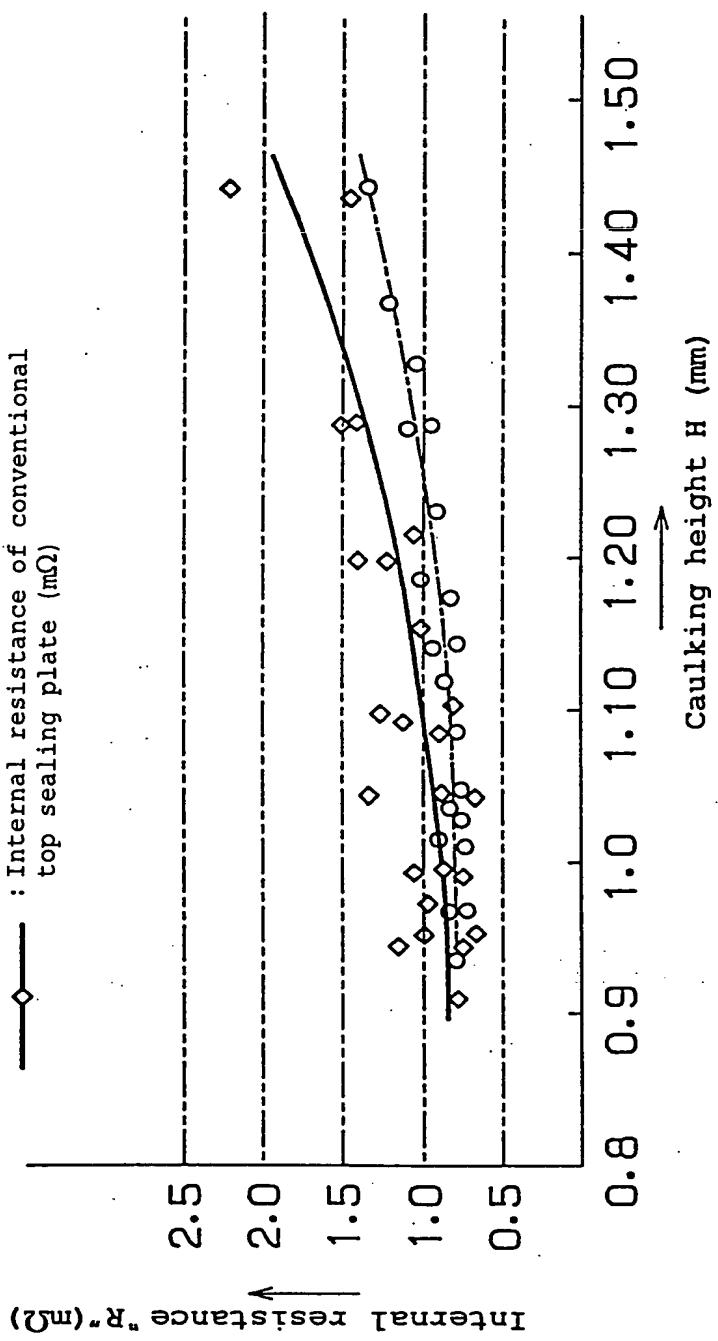


Fig. 7



---○--- : Internal resistance of top sealing plate of the present invention (mΩ)  
---◇--- : Internal resistance of conventional top sealing plate (mΩ)



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Fig. 8

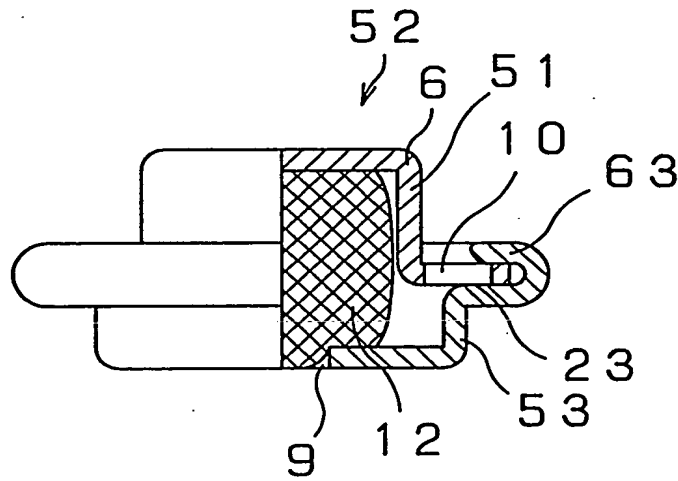
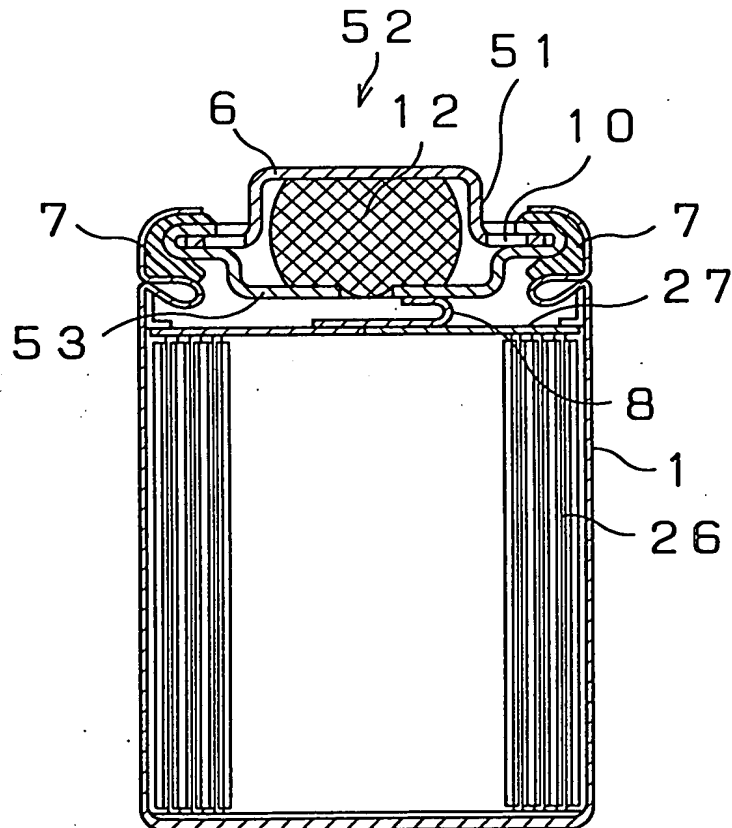


Fig. 9



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Fig. 10

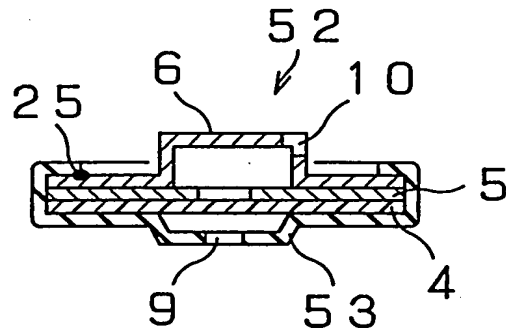


Fig. 11

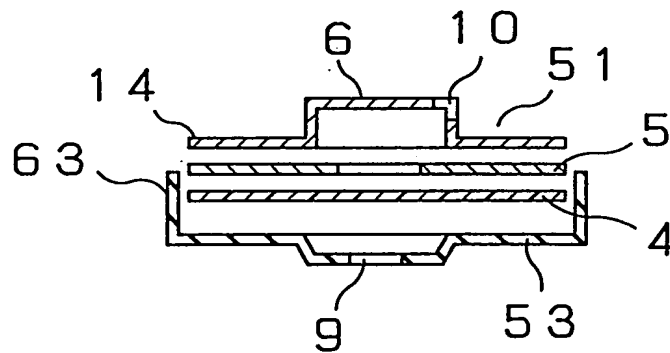
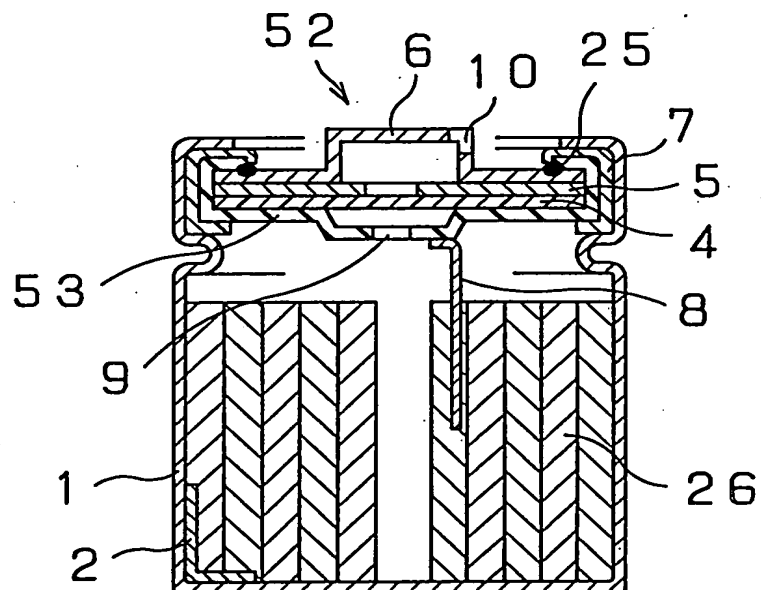


Fig. 12





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**REFERENCE NUMERALS IN THE DRAWINGS**

- 1 Battery case
- 2 Negative lead wire
- 3 Filter (dish-shaped top sealing plate)
- 4 Valve body
- 5 Reinforcement
- 6 Convex portion
- 7 Gasket
- 8 Positive lead plate
- 9 Valve hole
- 10 Gas vent hole
- 11 Cap
- 12 Valve body
- 13 Caulked portion (bend portion of upper opening end of filter, and outer periphery end of flange portion of cap)
- 14 Flange
- 15 Bulge
- 16 Small projection
- 17 Peripheral edge
- 18 Lower press die
- 19 Lower and upper press die abutment
- 20 Upper press die
- 21 Wedge-like portion of press die

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- 22 Top sealing plate
- 23 Cap and filter mating face
- 24 Locally pressurized portion
- 25 Weld zone
- 26 Electrodes
- 27 Collector
- 31 Projection
- H Caulking height
- R Internal resistance of top sealing plate